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FEDERAL COMMUNICATIONS COMMISSION
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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of

Amendment of Parts 2, 22, 90 and 94 of the Commission's Rules and Regulations to Permit Routine Licensing and Use of Bi-Directional Signal Boosters	}	RM-8200

COMMENTS OF MOTOROLA INC. REGARDING PETITION FOR RULE MAKING OF TX RX SYSTEMS, INC.

Respectfully submitted by:

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Motorola is pleased to respond in support of the above-referenced Petition filed by TX RX on February 25,1993 and placed on Public Notice on March 18, 1993.

Motorola agrees with TX RX that there is a need for routine licensing of "signal boosters", a system design component in demand by Private and Public Radio users. There is no apparent reason to continue to limit their use to the ten UHF "airport" channels - the only frequencies on which signal boosters can be licensed without a waiver. As TX RX summarized, the FCC modified its rules in 1971 to permit such limited use, but refrained from broad regulatory relief at that time. Motorola is not aware of interference resulting from signal boosters operating on the airport channels. Therefore, we agree with TX RX that the time is right to eliminate the regulatory burden of waiver requests on both the public and the FCC now required when signal boosters are employed.

Type accepted signal boosters can be incorporated into carefully designed systems to overcome obstacles that impede a user's ability to have reliable communications service throughout their coverage area. The TX RX Petition outlines various system configurations and proposes rule amendments that would regulate such use. Motorola generally supports both the language in the Petition, and the proposed Rules, but would like to suggest minor clarification and expansion.

TX RX states in its Petition that signal boosters are needed in a variety of radio services, including paging, two-way private land mobile systems in the 150-170 MHz, 470-512 MHz, 800 and 900 MHz bands and multiple address systems in the private microwave service. (Petition at page 3, paragraph 5) TX RX also includes these bands in the proposed Rule Section 90.219. However, elsewhere in the Petition, TX RX only refers to the bands above 800 MHz (Petition at page 17, paragraph 22 and page 19, paragraph 26). Motorola assumes this was an oversight, but wishes to clarify that the amended rules should cover the bands proposed in Section 90.219.

STATION AUTHORIZATION

Motorola believes that a licensee's use of signal boosters should be reflected on the station authorization. This requirement need not complicate the licensing process. Perhaps adding a letter to the station class as is done with interconnected stations is all that is needed. Another option would be to require a declaration and description of the proposed use as part of the license application. The license grant would include a provision stating that use of signal boosters in the authorized system is governed by Rule Section 90.219 (or Sections 22.501 and 94.96). This would allow identification of the licensee in the unlikely event an interference problem arises. Motorola notes that the proposed language in the TX RX Petition (Sections 22.501[c], 90.219[c] and 94.96[c]) does state that specific authority will be included on the station authorization.

FREQUENCY TRANSLATION

Motorola also believes the proposed rules should allow use of a signal booster that amplifies and translates the signal to another frequency for which the licensee has exclusive use. TX RX speaks to this configuration on page 15, footnote 17, and believes such use could be licensed as a repeater. However, Motorola believes that this is a specialized version of a signal booster system configuration and its use should be specifically authorized under the amended Rules.

In wide area systems, terrain obstacles frequently reduce signal levels such that reliable communications is not possible. In these cases additional sites and hardware are required to extend the coverage into these areas. An additional site frequently requires the addition of point to point links, computer control functions and repeaters on a new set of frequencies. This solution adds to

system cost and requires additional frequencies for the point to point links as well as for additional repeater frequencies.

Alternatively, the original set of frequencies can be used from multiple sites if "simulcasting" is employed. This requires that additional frequency stability be employed and that time delay equalizers be used to properly phase the new signals with the existing signals. Delays in these signals could cause destructive interference, and correcting the problem is an even higher cost option than just replicating the site with another frequency pair.

Therefore, Motorola believes TX RX's proposed rules should be revised to allow a licensee to employ a narrowband booster which could translate the signal from the frequency received to any other frequency also exclusively authorized to that licensee in the area of operation.

Sections 22.501(a), 90.219(a) and 94.96(a) could be revised as follows:

(a) The amplified signal of a common frequency signal booster is retransmitted only on the exact frequency of the originating base station *or on another frequency exclusively assigned to the licensee.*

Motorola respectfully requests consideration of the above amendments so that this particular use of signal boosters, when appropriately applied, will not be precluded by the Rules.

CONCLUSION

Motorola supports the TX RX Petition, with the above additional provisions and clarifications, and urges the Commission to adopt the proposed Rules. The routine licensing of signal boosters will

expand the use of signal boosters beyond the restrictive occasions currently authorized, and will allow Part 22, Part 90 and Part 94 licensees to take advantage of highly efficient signal booster products in their overall system design. Modification of the Rules will also reduce the regulatory burden on both the public and the FCC related to associated waiver requests for signal boosters. Use of signal boosters on the currently authorized frequencies has not, to the knowledge of TX RX or Motorola, resulted in an increased level of harmful interference. Considering the technical sophistication and versatility of type accepted signal boosters currently available on the market, the time is appropriate to expand their authorized usage to meet the increasingly challenging needs of today's private land mobile and public mobile radio users.

CERTIFICATE OF SERVICE

I, Alice M. de Séve, of Motorola Inc., do hereby certify that on this 19th day of April, 1993 a copy of the foregoing "Comments" was sent to each of the following by first-class mail, postage-prepaid except where service by hand is indicated(*):

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